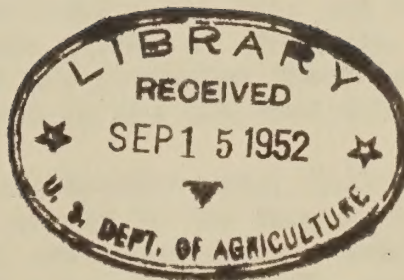


²³
POWER REQUIREMENT STUDY,
COVINGTON ELECTRIC COOPERATIVE, INC.

(ALABAMA 44 COVINGTON)

(Revised)



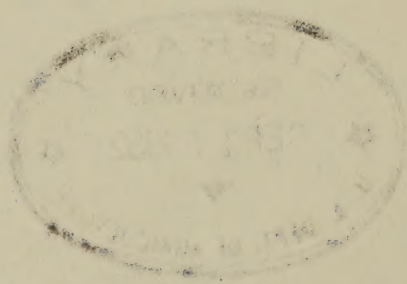
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U.S. Prepared by
Program Analyst
Office of the Administrator
RURAL ELECTRIFICATION ADMINISTRATION

50
May 1952

POWER REQUIREMENTS
OCEANOGRAPHIC SURVEY, 1962

ALABAMA 44-000000

(continued)



Approved by
Director, Office of the Assistant
Secretary for Administration
May 1962

POWER REQUIREMENT STUDY 1/

ALABAMA 44 COVINGTON

(Revised)

Foreword

This study has been prepared by the Rural Electrification Administration for use in determining the present and estimated future power requirements of the Covington Electric Cooperative, Inc. (Alabama 44 Covington).

The estimates of future loads contained in the study have been arrived at from a field survey in the Cooperative's area and from basic data obtained in the Cooperative's office. The estimates of kwh consumption for farm, nonfarm and town residential consumers used herein are based upon a projection of historical trends in consumption, type of farm, income, competitive sources of energy, and other economic factors which are believed to have a bearing on the future use of electricity in this area.

The estimates of average unit kilowatt demands per consumer at peak load, corresponding to the estimated average kilowatt-hour consumption per member per month of farm, nonfarm and small commercial consumers, have been derived from the curve "Maximum Demand at Substation" accompanying Engineering Memorandum No. 94R5 of the Engineering Division, REA, dated August 21, 1950. The total number of consumers to be served in each substation area, rather than the number of consumers in a particular class, was used as a basis in arriving at the total and unit demands in order to reflect the probable overall diversity between classes of consumers in a given substation area. No adjustment for a power factor less than unity was applied, it being assumed for estimating purposes that the KVA demand as read from the curve was equal to the KW demand at the substation.

Summary and Conclusions

Pertinent information reflecting the data and conclusions arrived at regarding the present and future number of consumers, kilowatt-hour requirements, and kilowatt demands for the Covington Electric Cooperative, Inc. (Alabama 44 Covington) are included in the attached Tables I to XI, Inclusive.

Table XI (Summary of Power Requirements) indicates that approximately 7,858 consumers will be served by the Cooperative in 1954, 8,158 in 1957, and 8,558 in 1962, at an estimated maximum demand at substation of 6,955 kilowatts in 1954, 8,343 kilowatts in 1957, and 10,819 kilowatts in 1962. Likewise, it is estimated that the Cooperative's annual energy requirements at substations will approximate 29.2 million kilowatt-hours in 1954, 35.6 million kilowatt-hours in 1957, and 47.1 million kilowatt-hours in 1962.

1/ Based on a field survey conducted by Abner H. Beard, Engineer, Office of the Administrator, REA, USDA.

The degree of attainment of area coverage by the Cooperative, as well as the achievement of the estimated kilowatt-hour consumption foreseen in this report, are contingent on the following important considerations:

1. An adequate, dependable source of low-cost power supply.
2. Dependable, adequate electrical power to the ultimate consumer with a minimum of interruption in service and at the lowest retail rate commensurate with "pay out" considerations.
3. A fully prosecuted power use program designed to attain the goals of saturation of appliances and farm equipment reflected by the estimates included in this report.

E. C. Weitzell,
Program Analyst

COMPARATIVE ANNUAL OPERATING DATA ON CONSUMERS AND AVERAGE MONTHLY CONSUMPTION

NOTE: THIS COOPERATIVE BEGAN OPERATIONS IN AUGUST 1944, ON ACCOUNT OF EXCHANGE OF PROPERTIES BETWEEN THE ADJOINING COOPERATIVES, STATISTICS DO NOT CONVEY A COMPREHENSIVE RECORD.

PROGRAM ANALYST, OFFICE OF THE
ADMINISTRATOR, REA - MAY 1952

TABLE II

COMPARATIVE ANNUAL OPERATING DATA ON ENERGY REQUIREMENTS

YEAR	ENERGY PURCHASED		ENERGY SOLD		ENERGY LOSSES		MAXIMUM KW DEMAND	AVERAGE COST PER KWH	TOTAL MILES ENERGIZED	TOTAL SERVICES CONNECTED	OVERALL CONSUMER DENSITY
	KWH	% INCR.	KWH	% INCR.	KWH	% LOSS					
1947	6,412,326	--	5,684,552	--	727,774	11.3	*	\$.0119	206	2,865	13.97
1948	7,103,957	10.8	6,394,470	12.5	709,487	10.0	*	.0117	595	3,309	5.56
1949	10,188,415	43.4	8,717,006	36.3	1,471,409	14.4	*	.0112	1,355	5,713	4.22
1950	13,435,593	31.9	11,352,212	30.2	2,083,381	15.5	4,409	.0104	1,355	6,721	4.96
1951	17,063,383	27.0	14,477,004	27.5	2,586,379	21.0	5,257	.0102	1,516	7,303	4.82
SUM OF YEARLY % INCR. (1947 - 1951)		113.2		106.5							
AVERAGE PER YEAR		28.3		26.6		14.0					

* NOT AVAILABLE.

PROGRAM ANALYST, OFFICE OF THE
ADMINISTRATOR, REA - MAY 1952

TABLE III

ESTIMATE OF LOADS - OPP SUBSTATION AREA

ALABAMA 44 COVINGTON (REV.)	TYPE OF CONSUMER	NUMBER OF CONSUMERS			KW DEMAND			ANNUAL KWH REQUIREMENTS		
		1954	1957	1962	1954	1957	1962	1954	1957	1962
FARM		1,131	1,166	1,213	00,624	00,775	01,032	01980	02580	03600
TOWN RESIDENTIAL		106	110	115	00,881	00,987	01,182	03000	03420	04200
SMALL COMMERCIAL		54	56	58	01,077	01,306	01,721	03780	04680	06300
SCHOOLS & CHURCHES		37	38	40	00,174	00,216	00,257	0480	0600	0720
STREET LIGHTING		1	1	1	02,727	03,121	04,411	010,200	011,700	014,400
LARGE POWER:										
DRIVE-IN THEATER		1	1	1	023/1.50F	023/1.50F	023/1.50F	40,500	40,500	40,500
SUB-TOTAL										
								2,829,960	3,721,560	5,298,900
PLUS DIST. LOSSES (APPROX.)								020%	019%	018%
								707,040	873,440	1,163,100
TOTAL		1,330	1,372	1,428	881	1,112	1,517	3,537,000	4,595,000	6,462,000

ANNUAL LOAD FACTOR -

45.8%

47.2%

48.6%

PROGRAM ANALYST, OFFICE OF THE
ADMINISTRATOR, REA - MAY 1952

TABLE IV

ESTIMATE OF LOADS - DAMASCUS SUBSTATION AREA

ALABAMA 44 COVINGTON (REV.)

TYPE OF CONSUMER	NUMBER OF CONSUMERS			KW DEMAND			ANNUAL KWH REQUIREMENTS		
	1954	1957	1962	1954	1957	1962	1954	1957	1962
FARM	1,488	1,573	1,685	@0.616 917	@0.765 1,203	@1.019 1,717	@1980 2,946,240	@2580 4,058,340	@3600 6,066,000
TOWN RESIDENTIAL	282	298	320	@0.869 245	@0.974 290	@1.166 373	@3000 846,000	@3420 1,032,160	@4200 1,244,000
SMALL COMMERCIAL	154	163	175	@1.063 164	@1.288 210	@1.698 297	@3780 582,120	@4680 762,840	@6300 1,102,500
SCHOOLS & CHURCHES	47	48	50	@0.172 8	@0.213 10	@0.253 13	@480 22,560	@600 28,800	@720 36,000
LARGE POWER: DRIVE-IN THEATER	1	1	1	@23/1.5DF 15	@23/1.5DF 15	@23/1.5DF 15	40,500	40,500	40,500
SUB-TOTAL							4,437,420	5,909,640	8,589,000
PLUS HIST. LOSSES (APPROX.)							@20% 1,109,580	@19% 1,286,360	@18% 1,885,000
TOTAL	1,972	2,083	2,231	1,349	1,728	2,415	5,547,000	7,296,000	10,474,000

ANNUAL LOAD FACTOR -

46.9%

48.2%

49.5%

PROGRAM ANALYST, OFFICE OF THE
ADMINISTRATOR, REA - MAY 1952

TABLE V

ESTIMATE OF LOADS - RIVER FALLS SUBSTATION AREA

ALABAMA 44 COVINGTON (REV.)

TYPE OF CONSUMER	NUMBER OF CONSUMERS			KW DEMAND			ANNUAL KWH REQUIREMENTS		
	1954	1957	1962	1954	1957	1962	1954	1957	1962
FARM	2,498	2,581	2,690	@0.616	@0.765	@1.019	@1980	@2580	@3600
TOWN RESIDENTIAL	254	262	273	@0.869	@0.974	@1.166	@3000	@3420	@4200
SMALL COMMERCIAL	136	140	146	@1.063	@1.288	@1.698	@3780	@4680	@6300
SCHOOLS & CHURCHES	83	84	86	@0.172	@0.213	@0.253	@480	@600	@720
STREET LIGHTING	2	2	2	@2.692	@3.080	@4.411	@10,200	@11,700	@14,400
LARGE POWER: DRIVE-IN THEATER	1	1	1	@27/1.5DF	@27/1.5DF	@27/1.5DF	20,400	23,400	28,800
BRICK CO.	1	1	1	@47/1.25DF	@47/1.25DF	@47/1.25DF	24,500	24,500	24,500
LUMBER CO.	1	1	1	@288/4.0DF	@288/4.0DF	@288/4.0DF	250,000	250,000	250,000
PACKING CO.	1	1	1	@77/1.3DF	@77/1.3DF	@77/1.3DF	604,000	604,000	604,000
CITY WATER WORKS	1	1	1	@144/1.1DF	@144/1.1DF	@144/1.1DF	317,000	317,000	317,000
LUMBER CO.	1	1	1	@65/4.0DF	@65/4.0DF	@65/4.0DF	315,000	320,000	350,000
FOOTBALL FIELD *	1	1	1	*	*	*	50,000	50,000	50,000
SUB-TOTAL							1,500	1,500	1,500
PLUS DIST. LOSSES (APPROX.)							7,844,360	9,851,020	13,438,120
							@20%	@19%	@18%
TOTAL	2,980	3,076	3,204	2,257	2,766	3,671	1,960,640	2,310,980	2,949,880
							9,805,000	12,162,000	16,388,000

* SEASONAL DOES NOT OPERATE AT TIME
SYSTEM PEAK OCCURS.

ANNUAL LOAD FACTOR -

49.6%

50.2%

51.0%

PROGRAM ANALYST, OFFICE OF THE
ADMINISTRATOR, REA - MAY 1952

TABLE VI

ESTIMATE OF LOADS - BRANTLEY SUBSTATION AREA

ALABAMA 44 COVINGTON (REV.)	TYPE OF CONSUMER	NUMBER OF CONSUMERS			KW DEMAND			ANNUAL KWH REQUIREMENTS			
		1954	1957	1962	1954	1957	1962	1954	1957	1962	
	FARM	1,203	1,243	1,295	@0.616	@0.765	@1.019	@1980 2,381,940	@2580 3,206,940	@3600 4,662,000	
	TOWN RESIDENTIAL	216	223	233	@0.869	@0.974	@1.166	@3000 648,000	@3420 762,660	@4200 978,600	
	SMALL COMMERCIAL	101	104	108	@1.063	@1.288	@1.698	@3780 381,780	@4680 416,720	@6300 680,400	
	SCHOOLS & CHURCHES	43	44	46	@0.172	@0.213	@0.253	@480 20,540	@600 26,400	@720 33,200	
	STREET LIGHTING	2	2	2	@2.692	@3.080	@4.411	@10,200 20,400	@11,700 23,400	@14,400 28,800	
	LARGE POWER: SAND & GRAVEL CO.	1	1	1	@42/3.0DF	@42/3.0DF	@42/3.0DF	12,000	12,000	12,010	
	TEXTILE PRODUCTS CO.	1	1	1	@35/2.5DF	@35/2.5DF	@35/2.5DF	58,000	58,000	58,010	
	FOOTBALL FIELD *	2	2	2	*	*	*	@1500 3,000	@1500 3,000	@1500 3,000	
	GROVE FACTORY	1	1	1	@20/4.0DF	@20/4.0DF	@20/4.0DF	44,000	44,000	44,000	
	SUB-TOTAL							3,569,760	4,623,120	6,499,920	
	PLUS DIST. LOSSES (APPROX.)							@20% 892,240	@19% 1,084,880	@18% 1,427,080	
	TOTAL	1,570	1,621	1,689	1,081	1,350	1,829	4,462,000	5,708,000	7,927,000	

* SEASONAL DOES NOT OPERATE AT TIME
SYSTEM PEAK OCCURS.

ANNUAL LOAD FACTOR -

47.1%

48.3%

49.5%

PROGRAM ANALYST, OFFICE OF THE
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TABLE VII

ESTIMATE OF LOADS - ANDALUSIA SUBSTATION AREA

ALABAMA 44 COVINGTON (REV.)		NUMBER OF CONSUMERS			KW DEMAND			ANNUAL KWH REQUIREMENTS		
TYPE OF CONSUMER		1954	1957	1962	1954	1957	1962	1954	1957	1962
LARGE POWER ONLY:										
COTTON OIL MILL		1	1	1	@173/2.0DF 86	@173/2.0DF 86	@173/2.0DF 86	256,000	256,000	256,000
COTTON GIN *		1	1	1	@138/1.1DF 125	@138/1.1DF 125	@138/1.1DF 125	152,000	152,000	152,000
COTTON OIL MILL		1	1	1	@102/1.1DF 93	@102/1.1DF 93	@102/1.1DF 93	100,700	100,000	100,700
GARMENT PLANT		1	1	1	@94/1.2DF 78	@94/1.2DF 78	@94/1.2DF 78	102,600	102,600	102,600
SUB-TOTAL								611,300 @10%	611,300 @10%	611,300 @10%
PLUS DIST. LOSSES (APPROX.)								67,700	67,700	67,700
TOTAL		4	4	4	382	382	382	679,000	679,000	679,000

* SEASONAL FIVE MONTHS OPERATION.

ANNUAL LOAD FACTOR -

20.3%

20.3%

20.3%

PROGRAM ANALYST, OFFICE OF THE
ADMINISTRATOR, REA - MAY 1952

TABLE VIII

ESTIMATE OF LOADS - TEXTILE PRODUCTS SUBSTATION AREA

ALABAMA 44 COVINGTON (REV.)		NUMBER OF CONSUMERS			KW DEMAND			ANNUAL KWH REQUIREMENTS		
TYPE OF CONSUMER		1954	1957	1962	1954	1957	1962	1954	1957	1962
TEXTILE PRODUCTS		1	1	1	@548/1.160F 472	@548/1.160F 472	@548/1.160F 472	1,212,000	1,212,000	1,212,000
SUB-TOTAL								1,212,000 @10%	1,212,000 @10%	1,212,000 @10%
PLUS DIST. LOSSES (APPROX.)								135,000	135,000	135,000
TOTAL		1	1	1	472	472	472	1,347,000	1,347,000	1,347,000

NOTE: THIS SUBSTATION SERVED DIRECTLY FROM
TRANSMISSION LINES.

ANNUAL LOAD FACTOR -

32.6%

32.6%

32.6%

PROGRAM ANALYST, OFFICE OF THE
ADMINISTRATOR, REA - MAY 1952

TABLE IX

ESTIMATE OF LOADS - GULF NAVAL SUBSTATION AREA

ALABAMA 44 COVINGTON (REV.)		NUMBER OF CONSUMERS			17W DEMAND			ANNUAL KWH REQUIREMENTS		
TYPE OF CONSUMER		1954	1957	1962	1954	1957	1962	1954	1957	1962
					@800/1.5DF	@800/1.5DF	@800/1.5DF			
GULF NAVAL STORES		1	1	1	533	533	533	3,500,000	3,500,000	2,500,000
SUB-TOTAL								3,500,000	3,500,000	3,500,000
PLUS DIST. LOSSES (APPROX.)								@10% 389,000	@10% 389,000	@10% 389,000
TOTAL		1	1	1	533	533	533	3,889,000	3,889,000	3,889,000

NOTE: THIS SUBSTATION SERVED DIRECTLY FROM
THE TRANSMISSION LINES.

ANNUAL LOAD FACTOR - 83.3% 83.3% 83.3%

PROGRAM ANALYST, OFFICE OF THE
ADMINISTRATOR, REA - MAY 1952

TABLE X

ESTIMATE OF LOADS - SUMMARY OF POWER REQUIREMENTS
(BY CLASSIFICATION OF CONSUMERS)

ALABAMA 44 COVINGTON (REV.)	NUMBER OF CONSUMERS			KW DEMAND			ANNUAL KWH REQUIREMENTS		
TYPE OF CONSUMER	1954	1957	1962	1954	1957	1962	1954	1957	1962
FARM	6,320	6,563	6,883	3,903	5,032	7,030	12,513,600	16,932,540	24,778,800
TOWN RESIDENTIAL	858	893	941	747	871	1,099	2,574,000	3,054,060	3,952,200
SMALL COMMERCIAL	445	463	487	474	597	828	1,682,100	2,166,840	3,068,100
SCHOOLS & CHURCHES	210	214	222	35	45	57	100,800	128,400	159,840
STREET LIGHTING	5	5	5	13	15	22	51,000	58,500	72,000
LARGE POWER	20	20	20	1,783	1,783	1,783	7,083,300	7,088,300	7,118,300
SUB-TOTAL							24,004,800	29,428,640	39,149,240
PLUS DIST. LOSSES (APPROX.)							5,261,200	6,247,360	8,016,760
TOTAL	7,858	8,158	8,558	6,955	8,343	10,819	29,266,000	35,676,000	47,166,000

PROGRAM ANALYST, OFFICE OF THE
ADMINISTRATOR, REA - MAY 1952

TABLE XI

ESTIMATE OF LOADS - SUMMARY OF POWER REQUIREMENTS

ALABAMA 44 COVINGTON (REV.)

SUBSTATION AREAS	NUMBER OF CONSUMERS			KW DEMAND			ANNUAL KWH REQUIREMENTS		
	1954	1957	1962	1954	1957	1962	1954	1957	1962
OPP	1,330	1,372	1,428	891	1,112	1,517	3,537,000	4,595,000	6,462,000
DAMASCUS	1,972	2,083	2,231	1,349	1,728	2,415	5,547,000	7,296,000	10,474,000
RIVER FALLS	2,980	3,076	3,204	2,257	2,766	3,671	9,805,000	12,162,000	16,388,000
BRANTLEY	1,570	1,621	1,689	1,081	1,350	1,829	4,462,000	5,708,000	7,927,000
ANDALUSIA	4	4	4	382	382	382	679,000	679,000	679,000
TEXTILE MILLS	1	1	1	472	472	472	1,347,000	1,347,000	1,347,000
GULF NAVAL STORES	1	1	1	533	533	533	3,889,000	3,889,000	3,889,000
TOTAL	7,858	8,158	8,558	6,955	8,343	10,819	29,266,000	35,676,000	47,166,000

ANNUAL LOAD FACTOR - 48.0% 48.8% 49.8%

PROGRAM ANALYST, OFFICE OF THE
ADMINISTRATOR, REA - MAY 1952

